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Bureau fédéral d'examen des évaluations environnementales

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May 23, 1990

Mr. G.S. Shortcliffe
Deputy Minister
Transport Canada
Transport Canada Building
Place de Ville
330 Sparks St.
Ottawa K1A 0N5

Dear Mr. Shortcliffe:

Environmental Assessment Panel review of air transportation proposals in the Toronto area

The Environmental Assessment Panel appointed by the Minister of Environment to review Transport Canada's proposal to add runways at Lester B. Pearson International Airport (LBPIA) has now prepared Draft Guidelines for the preparation of an Environmental Impact Statement (EIS). These Draft Guidelines (copy enclosed) are today being issued to the public for a 30-day review and comment period. Following this period, the Panel will finalize the Guidelines and will issue them to Transport Canada for use in preparing the EIS for its LBPIA proposal.

During the Panel's Scoping Sessions, several issues were raised by the public that relate to ongoing LBPIA operations and its current and future relationship to other airports in the area. In the Panel's view Transport Canada may be able to address these issues simultaneously with the preparation of the EIS. A listing and description of the issues raised is provided in Attachment 1 to this letter.

As you will see from the scope of Attachment 1, the activities and initiatives taken by Transport Canada in response to these issues will have a direct bearing on the content and completeness of the EIS. This is particularly true with respect to sections dealing with project need and alternatives, the public information programme and predicted noise impacts.

These issues have been brought to the Panel's attention by a broad cross-section of the public and stakeholders through 104 oral presentations given during the six days of scoping meetings

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and a further 85 written submissions. They are central to both the medium-term question of whether LBPIA is to be expanded, and the long-term question of aviation strategies in Southern Ontario. Accordingly, this letter is attached to the Draft EIS Guidelines being circulated to the public.

Yours very truly,

R.G. Connelly
Chairman

cc. Chern Heed
Ed Warrick

ATTACHMENT I

Issues Raised During Scoping But Not Included In the Draft EIS Guidelines

A. Relationship between medium- and long-term plans

Many of the submissions received by the Panel questioned whether the two-stage structure of the Panel's Terms of Reference is a logical approach to the assessment of Transport Canada's proposals. They pointed out that Transport Canada has not issued a current Master Plan for either Lester B. Pearson International Airport (LBPIA) or for the system of airports in the Southern Ontario region, and questioned whether Transport Canada's medium-term proposal for additional runways at LBPIA could be properly assessed in the absence of such Master Plans.

It is the Panel's view that these questions have considerable merit. The assessment of the medium-term proposal may be constrained by the absence of the information that would be contained in a Master Plan that describes both the ultimate development of LBPIA and the Department's future strategies for other airports in the Toronto region.

This planning information would indicate to the Panel, and the public, Transport Canada's plans for the ultimate development of LBPIA, the proposed roles of other existing airports such as Downsview, Toronto Island, Buttonville, Markham, Hamilton, Oshawa and others, the need for additional airports not yet built, and the operational and planning horizons assumed for each.

During the preparation of the Environmental Impact Statement (EIS) Guidelines, the Panel concluded that the solution to the problem of ensuring that there is a logical and correct sequence of information and events in the assessment process will come from the inevitable linkages that will be identified by Transport Canada in the EIS between short, medium and long-term options (each of which must be fully examined) for meeting air transportation demand at LBPIA and in the Southern Ontario region. This will be clear from an examination of the EIS Guidelines and specifically, the sections covering project need and justification and the alternatives to the project that might also meet air traffic demand, present and future.

Thus, while completed Master Plans for LBPIA and the Southern Ontario region would be most useful, if they are not available during the first stage of the assessment process, the EIS must of necessity cope satisfactorily with this shortcoming. Hence, the Guidelines, on the specific elements mentioned above, will require an EIS that integrates consideration of Transport Canada's medium-

term proposal with all options, and their imelines, for meeting both the present and ultimate air traffic capacity requirements at LBPIA and in the region as a whole. In effect, Transport Canada will have to produce the applicable and critical elements of both Master Plans in order to complete the EIS in accordance with the Guidelines.

In the absence of the master plans, the Panel has prepared the guidelines in such a way that the EIS will include the necessary planning information. In particular, the Panel expects that the EIS will resolve questions such as:

1. Can major capacity improvements be undertaken at LBPIA in the medium term that will not prejudice the development or viability of alternative long-term solutions?

2. Would the early implementation of specific elements of a long-term plan obviate the need for additional runways at LBPIA?

B. Communications

During the Scoping Sessions, a number of the submissions identified poor communications between Transport Canada and its LBPIA stakeholders. This problem was not confined to one particular group of submissions. It was noted by both supporters and opponents of additional runways at LBPIA, and by business, political and ratepayer groups and by individual members of the public. While most expressed their frustration with this situation, they also seemed encouraged by the recent efforts of the airport General Manager.

The Panel was struck by the willingness, even strong desire, of most of the stakeholders to co-operate and participate in making the best of the current LBPIA situation, by the large number of constructive suggestions offered by the various stakeholders, and by the degree of knowledge exhibited in many of the suggestions offered by different stakeholder groups.

The primary communications requirement is for a two-way flow of information between Transport Canada and the LBPIA stakeholders. Problems that each face should be identified, and proposed solutions that may negatively impact some or all of the stakeholders must be discussed well in advance of their implementation. Transport Canada must be prepared to receive and respond to stakeholder suggestions and concerns, and the stakeholders must be prepared to accept the need for solutions which may have to be implemented for the greatest common good.

It is suggested that this could be accomplished through a regularly (perhaps monthly) scheduled forum, at which a representative of each major local stakeholder would be offered full participation. This may include:

- Community / Neighbourhood Groups:
  - Brampton
  - Mississauga,
  - Etobicoke;
- Business Groups:
  - Brampton,
  - Mississauga,
  - Metropolitan Toronto;
- Airlines:
  - Major scheduled carriers,
  - Regional carriers,
  - Charter carriers:
- General aviation:
  - Operators,
  - Support businesses;
- Airline pilots;
- Boards of Education;
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- and others as may be identified.

Transport Canada representation should be broad based including appropriate representatives from the sectors such as the airport management, project management, air navigation, regional planning, and air traffic control functions. Input from both administrative and operating personnel will be important to the success of the process.

In the Panel's view , it would be advisable for Transport Canada to seek the services of a neutral, professional facilitator to design and oversee the implementation of the communications programme and to encourage discussion among stakeholders.

The communications programme at the San Francisco Airport was spoken of highly in several submissions received by the Panel during the Scoping Sessions. It, or a similar process, may therefore be considered as a model for LBPIA communications.

The Panel believes that this stakeholder consultation would address four major items:

- current LBPIA operations;
- the application of additional noise reduction and mitigation measures;
- the introduction of operational and capacity improvements

based on the current three-runway system at LBPIA; and,

- the development of the EIS for the proposal to add two runways at LBPIA.

C. Short-Term Productivity and Mitigation Measures

Many of the submissions provided to the Panel addressed measures that could be taken in the short term to improve productivity or reduce or mitigate impacts at LBPIA. It is clear that it would be in the interests of all concerned parties to pursue the consideration of these measures to determine their practicality. Moreover, many of the suggested short-term measures may well have application in the medium and long term, and may therefore be reflected in the EIS. Discussion of the suggestions would be best accomplished as an element of the communications process recommended above.

Suggested short-term measures that were brought to the Panel's attention and merit further detailed examination as part of the communications process are described below:

Noise Alleviation / Mitigation

- **Approach Descent Policies**

Background

Current air traffic control practice is to clear incoming aircraft to descend, in stages, to an altitude of 3,000 feet, from which they intercept and descend on the glide path of their landing runway. In the case of visual approaches, the pilot may descend at his/her own discretion. When LBPIA is busy and arrival control has several aircraft aligned on or near the landing runway centreline, this practice means that many aircraft are cleared to and reach an altitude of 3,000 feet at some considerable distance from the runway threshold, and actually intercept the glide path from below. The result is that aircraft are flying lower than expected over residential areas some distance from LBPIA, and there is an unplanned expansion of the approach noise footprint.

Discussion Point:

Transport Canada should investigate whether it would be possible to clear approaching aircraft, during both instrument and visual approaches, onto the runway centreline on or above the glide path, so they do not fly closer to the ground than

is necessary to follow the inbound path described by the Instrument Landing System.

♦ **Glide Path Angle**

Background:

Correct aircraft altitude during final approach to a runway is determined by the angle of the glide path defined by the Instrument Landing System installed for the runway. A variety of glide path angles are in use with conventional Instrument Landing Systems at the world's major airports, including LBPIA. In general, subject to irregular ground terrain, the steeper the glide path angle, the higher the approaching aircraft are above the surrounding community, and the lower the noise impact.

Discussion Point:

Transport Canada should investigate whether it would be possible to re-configure the LBPIA Instrument Landing Systems so that all glide paths are set at the steepest commonly used angle.

♦ **Landing Gear**

Background:

Approaching aircraft sometimes overfly residential areas located some distance from LBPIA with their landing gear lowered. It is probable that, when the landing gear is down, the flaps and other aircraft control surfaces are configured in a high-drag attitude, and thrust settings may be elevated. This practice may be followed, at least in part, in order to operate the aircraft at low flight speeds requested by arrival control. The result is that the aircraft generates more noise than would a 'cleaner' configuration.

Discussion Point:

Transport Canada should investigate whether it would be possible to regulate the distance from the runway at which aircraft landing gear may be lowered (e.g., at the outer marker)? If aircraft are extending their gear and other control surfaces early in order to meet approach controller-imposed speed restrictions, Transport Canada should investigate whether it would be possible to extend the downwind leg of arriving aircraft so that low flight speed restrictions are only infrequently required. If the size of the Toronto Terminal Area restricts the ability of approach

control to extend the downwind legs for each runway, Transport Canada should investigate whether it would be possible to re-configure the Toronto Terminal Area to provide extended manoeuvring airspace for arriving aircraft.

♦ **Parallel Runway Selection**

Background:

When parallel runways are in use, whether in independent operation or not, and air traffic volumes are high, arriving aircraft are assigned their landing runway on the basis of the direction from which they enter the Toronto Terminal Area. The result of this assignment strategy is that aircraft with a wide range of performance and noise characteristics (e.g., large turbo-jet, small turbo-prop) operate together on both of the two parallel landing runways. The mix of performance characteristics reduces the effective runway capacity due to differing approach speeds, landing speeds, roll-out distances and wake protection separations. The mix of noise characteristics means that residential areas under both runways' approaches seem noisy simultaneously, all the time the parallel runways are in use.

Discussion Point:

Transport Canada should investigate whether it would be possible to arrange enroute airways in the vicinity of the Toronto Terminal Area in such a way that arriving aircraft could be vectored onto the centreline of either of the parallel runways according to their performance characteristics. If this were possible, then aircraft could be assigned their landing runway on the basis of performance characteristics. Smaller, quieter aircraft could be assigned to one runway, while larger, noisier aircraft could be assigned to the other.

Use of the parallel runways could then be rotated at fixed intervals to exchange the noisier and quieter approaches. This would give local residents a break from the constant noise of a mixed-use approach corridor. At the same time, elimination of the aircraft performance differentials found on a mixed-use runway would yield an increase in the total net runway capacity of the two-runway system.

♦ **Runway Rotation**

Background:

The Panel has been advised that, some years ago when traffic volumes were lighter, runway use was rotated when wind conditions permitted, so that all residents could expect to share aircraft noise, but no one group of residents would be exposed to constant noise. This rotation scheme involved the use of the parallel runways, operating in either direction, and was suspended when increased traffic volumes required simultaneous use of both parallels.

Discussion Point:

Transport Canada should investigate whether it would be possible to re-institute a modified runway rotation scheme, in order to achieve noise relief objectives. This rotation scheme might be based on aircraft noise characteristics, as discussed in the previous item, or it might be based on expanded use of Runway 15-33 at times when hourly aircraft volumes are relatively light and wind conditions permit (i.e., crosswind component below 25 knots).

♦ **Divergent Departure Paths**

Background:

Several submissions reported that the procedural requirement that departure paths from independent parallel runways be divergent by at least 15° has created noise over communities never before exposed to noise, and never expected to experience noise. Others suggested that this requirement is not found at many other large airports when parallel runway departures are in effect.

Discussion Point:

Transport Canada should investigate whether it would be possible to review this requirement to determine why it is necessary at LBPIA and not at other airports. If it is required for reasons unique to LBPIA, Transport Canada should investigate whether it can be modified in such a manner as to minimize the generation of noise footprints in residential areas.

♦ **Intersection Departures**

Background:

Intersection take-offs are used at LBPIA in order to increase the flexibility available to controllers in establishing the order in which aircraft depart, and in order to make use of all available take-off opportunities. This procedure acts to maximize the capacity of the existing runway / taxiway system. The Panel has been advised, however, that if a noisy aircraft begins its take-off roll from an intersection location that is some distance down the runway, then its noise footprint is shifted relative to the normal location, with less noise falling on the airport property and more over the surrounding community.

Discussion Point:

Transport Canada should investigate whether it would be possible to limit the intersections from which Stage II aircraft are permitted to take-off to those within a short distance, say 1,500 feet, of the runway threshold.

♦ **Night Operations**

Background:

Aircraft operation at LBPIA during night hours is not subject to a curfew. It is, however, subject to restrictions based on time, aircraft type and reasons for operating. Night operations range from scheduled services to emergencies, encompass a wide range of aircraft types, and span the entire night time period. Given that the required approvals for non-scheduled night flights are obtained by hundreds of aircraft per month, and as many as a dozen per hour, the degree of real restriction comes into question.

Discussion Point:

Transport Canada should investigate whether it would be possible to alter the restrictions, with a view to modifying either the rules or their application to create an effective deterrent to night operations. A useful starting point would be an analysis of the night operating records of recent months, to determine the reasons each of the exempted aircraft was allowed to operate.

- **Aircraft Noise Categorization**

Background:

Some have argued before the Panel that, while there is a real difference between the noise characteristics of different aircraft, it is not accurately reflected by the Stage II / Stage III categorization criteria. The result is that some relatively noisy aircraft are permitted to operate when relatively more quiet aircraft are not.

Discussion Point:

Transport Canada should investigate whether it would be possible to examine alternative methods of aircraft noise categorization that more accurately reflect the actual noise produced over residential communities.

- **Quieter Aircraft Bonussing**

Background:

The night operation restrictions distinguish between aircraft types on the basis of noise performance. Many residents' representatives have advised the Panel that there is a noticeable difference in the noise impacts produced by different aircraft.

Discussion Point:

Transport Canada should investigate whether it would be possible to review the night operation restrictions to further bonus quieter aircraft and penalize noisier aircraft, particularly during the shoulder periods near 2300h and 0700h, in terms of their ability to operate at LBPIA.

- **Noise Monitoring**

Background:

Transport Canada has conducted a noise measurement programme for some time near LBPIA. However, several of the monitors are not located in residential areas, which tend to be the most sensitive to noise, and more than 50% of the monitors are located along the alignment of Runway 15-33, which is used for significantly less than one-half of all operations.

Discussion Point:

Transport Canada should investigate whether it would be possible to install permanent noise monitoring stations in

each of the impacted residential communities near the airport, deployed in a manner that provides a representative picture of the actual noise impact of LBPIA operations.

♦ **Schools**

Background

Several submissions received by the Panel indicated that the education process in some schools is already severely disrupted by the noise generated by existing LBPIA operations.

Discussion point:

Transport Canada should investigate whether it would be possible to undertake noise studies immediately with respect to the impact of aircraft noise on both indoor and outdoor school activities in order to determine whether there is a need for mitigation of current adverse impacts, and to prepare for similar actions, if necessary, to cope with changes that could occur at schools not now seriously impacted.

Capacity Improvements

A number of issues were brought to the panel that deal with capacity improvements based on the existing LBPIA runway configuration. These are raised here for consideration as possible short term measures. Because capacity improvements may have an effect on the timing and the need of any expansion plans, they are also addressed in the EIS Guidelines.

♦ **Entrance Taxiways**

Background:

The Panel has been told that runway departure capacity is improved when controllers have the flexibility afforded by a choice of taxiways available to access the runway. Because the preferred method of operation at LBPIA is to use parallel runways, because the more frequent direction of use of the parallels is in the 24 direction, and because Runway 24R has the greatest departure capacity, it has become the primary departure runway. This means not only that the overall departure capacity may be below its maximum, but also that departure noise is not evenly distributed to the west of LBPIA.

Discussion Point:

Transport Canada should investigate whether it would be possible to add short entrance taxiway sections near the thresholds of other runways, in order to increase their departure flexibility and capacity, and thereby the capacity of the entire existing LBPIA runway system. Transport Canada should investigate whether, if these sections were available, it would be possible to achieve greater balance in the use of 24R and 24L for departures.

- **Exit Taxiways**

Background:

Runway capacity is also affected by the length of time a landing aircraft actually occupies the runway. Many airports, including LBPIA, employ high-speed exit taxiways, which aircraft use at speeds of up to 100 kph, to allow landed aircraft to exit the active runway as quickly as possible.

Discussion Point:

Transport Canada should investigate whether it would be possible to add additional high speed exit taxiways to the existing LBPIA configuration.

- **Air Traffic Controller Scheduling**

Background:

The current shortage of air traffic controllers creates significant limitations on the effective use of the airspace system and the ability to utilize the full capacity of the existing LBPIA runway system.

Discussion Point:

Transport Canada should investigate whether it would be possible to review the scheduling of air traffic controller shifts to ensure that they are as closely aligned with air traffic peaks as possible, and to undertake any re-alignment that is indicated.

♦ **Air Traffic Controller Shortage**

Background:

The Panel has been told that it will take some years to bring the complement of air traffic controllers at LBPIA and the Toronto Centre to its full staffing level. Selection and training time, the high cost of living in the Greater Toronto area and the lack of any remuneration premium for coping with the stress of the country's busiest airspace are cited as reasons why it will be difficult to staff Toronto more quickly.

Discussion Point:

Transport Canada should investigate whether it would it be possible to establish special policies for attracting controllers to Toronto, or even to other airports in the Toronto region, for a short period of time until staffing requirements are met.

♦ **Aircraft Hourly Movement Cap**

Background:

LBPIA is currently subject to a cap of 70 flights per hour during peak periods, administered through a slot allocation system. Slots are assigned in advance on the basis of the type of user, and the Panel has been advised that there is a demand for many more slots than are available. The Panel has also been told that the cap of 70 flights per hour is not particularly related to the operating capacity of the runway system when only the north-south single runway must be used (approximate capacity: 45 flights per hour, 25 fewer than the number of pre-assigned slots), or to the capacity when the parallel runways are operated by a full complement of air traffic controllers (approximate capacity: 86 flights per hour, 16 more than the number of pre-assigned slots). This suggests that the movement cap ensures that on any given day LBPIA either cannot serve all those to whom it has assigned a slot, or has spare capacity that could be used to serve those who have been denied a slot.

Discussion Point:

Transport Canada should investigate whether it would be possible to adjust the number of slots during peak hours

beyond 70 on an ad hoc day-to-day basis, and only on those days for which controller scheduling indicates sufficient controllers, and weather conditions indicate fully independent use of the parallel runways.

- **Delayed / Cancelled Flights**

Background:

The Panel has been advised that, on days when all slot-holding air traffic cannot be accommodated at LBPIA, regional flights are delayed and, often, cancelled.

Discussion Point:

Transport Canada should investigate whether it would be possible to achieve a lower net passenger delay by diverting these flights to another local airport (e.g., Downsview, Hamilton, Buttonville, Toronto Island) on days when access to LBPIA is restricted and the regional flights would otherwise be cancelled or delayed for hours, and by providing a quality motor coach service between the reliever airport(s) and LBPIA.

D. Regional Airports

The majority of submissions received by the Panel have suggested in one way or another that Transport Canada provide a role for one or more of the regional airports in the Toronto area in either its medium- or long- term plans. Transport Canada itself has made reference to "other regional airports", and explicitly to Hamilton Civic Airport, in its plans published to date. Moreover, in addition to general aviation activity, several airlines now offer a variety of commercial services at the Hamilton, Buttonville, and Toronto Island airports.

It has become clear to the Panel that, while the long-term future roles of these, and other, regional airports are not known at this time, there is a reasonable likelihood that each may be an important element of the eventual Master Plan for aviation services in Southern Ontario.

It is equally clear that the viability of some of the regional airports to serve a future aviation role is already at risk. Without knowing the full extent of the actual or potential problems, the Panel is aware that aircraft noise in residential areas, flight frequency, and the desirability of using airport lands for non-aviation purposes have all been public issues at each of the regional airports.

If there is a possibility that any of these airports may be included in the long-term aviation strategy for Southern Ontario, the Panel suggests that Transport Canada consider protecting its range of future options. In particular, preservation of the option to retain Buttonville Airport for aviation use was noted by many participants.